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IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF UTAH

PETTER INVESTMENTS, INC. d/b/a **RIVEER**, a Michigan corporation, Plaintiff, vs. **HYDRO ENGINEERING, INC.**, a Utah corporation, and **CALIFORNIA CLEANING SYSTEMS**, a California company, Defendants.	**DECLARATION OF DAVID C. PAULUS IN OPPOSITION TO DEFENDANTS' MOTIONS FOR CLAIM CONSTRUCTION AND FOR SUMMARY JUDGMENT** **(Dkt. 176, 179, 181, and 184)** Civil Case No. 2:14-CV-00045 Honorable District Judge Dee Benson
AND RELATED COUNTERCLAIMS	

I, David C. Paulus, declare and state as follows:

1. I am the Principal of Paulus Consulting, LLC, and I have been retained by Plaintiff Petter Investments, Inc. d/b/a RIVEER ("Riveer") to offer technical analysis and opinions regarding various issues in this action. I have personal knowledge of the facts stated herein, and if called to testify as a witness, I could and would testify competently thereto.

2. I previously signed a declaration filed in this action on December 8, 2014 (Dkt. 188-10, R. App. 67-78) which summarizes my relevant background, education, licenses, certifications, expertise, prior testimony, and familiarity with the patents-in-suit and the claim construction issues in this action. The purpose of this second declaration is to provide relevant input from a technical and engineering perspective of a person of skill in the art concerning the claim construction and infringement issues raised in Defendants' Motion for Claim Construction (Dkt. 176), Defendants' (Second) Motion for Summary Judgment on Plaintiff's First Claim (Dkt. 179), Defendants' Motion for Summary Judgment on Plaintiff's Second Claim (Dkt. 181), and Defendants' Motion for Summary Judgment on Plaintiff's Third Claim (Dkt. 184).

Defendants' Motion for Claim Construction (Dkt. 176)

3. I have reviewed in detail the three patents-in-suit in this action (including the prosecution file history for each)—*i.e.*, U.S. Patent Nos. 6,164,298 ("the '298 patent"), 8,499,774 ("the '774 patent"), and 8,506,720 ("the '720 patent"). These patents all relate to various mechanical engineering inventions, related to "modular wash rack" systems which enable users to wash vehicles and equipment in a manner that allows for water and debris to be efficiently collected and recycled and/or disposed in an environmentally-friendly way.

The ‘298 Patent

4. Concerning the ‘298 patent, Defendants propose to construe the claim terms “frame,” “bottom surface,” “grate,” and “sloped tray” each according to the “plain and ordinary meaning” of these terms to an engineer of ordinary skill in the art.

5. Defendants propose that “frame” should mean “a weight-bearing frame made up of four interconnected walls that define a single enclosed area such that each wall has an inner surface facing toward the enclosed area and an outer surface facing away from the enclosed area.” But Defendants’ proposed definition is much too restrictive and not consistent with the “plain and ordinary meaning” of the term “frame” according to my reading of the words used in the claims, the description and drawings of the example embodiments in the ‘298 patent, and the prosecution history. A frame is a structure that gives shape or strength. For example, the frame of a truck is a structure that gives shape and strength to a truck. The frame of a truck supports the vehicle and does not need further explanation or restriction of definition. Similarly the frame of the modular cleaning facility in claim 1 of the ‘298 patent does not require further limitation or explanation.

6. Defendants propose that “bottom surface” should mean “a surface that fills a horizontal cross-section of the enclosed area and intersects the bottom portion of the inner surfaces of all four frame walls.” But Defendants’ proposed definition is much too restrictive and not consistent with the “plain and ordinary meaning” of the term “bottom surface” according to my reading of the words used in the claims, the description and drawings of the example embodiments in the ‘298 patent, and the prosecution history. The bottom surface simply extends

between the inner surfaces of the walls to form a basin, and it does not need further limitation or explanation.

7. Defendants propose that "grate" should mean "a porous framework of parallel or crossed bars that fills a horizontal cross-section of the enclosed area and engages the top portion of the inner surfaces of all four frame walls." But Defendants' proposed definition is much too restrictive and not consistent with the "plain and ordinary meaning" of the term "grate" according to my reading of the words used in the claims, the description and drawings of the example embodiments in the '298 patent, and the prosecution history. For example, a grate is a barred frame as used for cooking over a fire, and a grate resting on a surface is equivalent to a corrugated surface such as the well-known "George Foreman Grill." A grate does not have to be porous or engage the top portion of the inner surfaces of the frame walls. The George Foreman grill supports the hamburger patty allowing grease to drip into the surface below. The term grate does not need any further limitation or explanation to define the structure and function of the grate used in claim 1 of the '298 patent.

8. Defendants propose that "sloped tray" should mean "a slanted tray positioned within the enclosed area at a level above the bottom surface and below the grate." But Defendants' proposed definition is much too restrictive and not consistent with the "plain and ordinary meaning" of the term "sloped tray," according to my reading of the words used in the claims, the description and drawings of the example embodiments in the '298 patent, and the prosecution history. A tray is a container that has low sides and usually no top and that is used to hold something. A common example is a cafeteria tray. A sloped tray is a tray with one side raised higher than the other. In the George Foreman grill, the sloped surfaces between the grate

elevations that allow grease to drip and flow off to one side show another example of a sloped tray. No further limitation or explanation of a sloped tray is required in claim 1 of the '298 patent.

The '720 Patent

9. Concerning the '720 patent, Defendants propose to construe the phrases "a side trough adjacent the wash floor" and "a guide rail separating the side trough from the wash floor" according to the "plain and ordinary meaning" of these phrases to an engineer of ordinary skill in the art.

10. Defendants propose that "a side trough adjacent the wash floor" should mean "a side trough abutting the wash floor such that wash fluid and/or debris flows directly from the wash floor into the side trough." But Defendants' proposed definition is much too restrictive and not consistent with the "plain and ordinary meaning" of the phrase used in the claims according to my reading of the words used in the claims, the description and drawings of the example embodiments in the '720 patent, and the prosecution history. Adjacent means close or near. The side trough is still adjacent to the wash floor if they are separated yet still nearby. For example, a house that is adjacent to a wooded park does not have to be abutted to the trees in the park. Similarly the side trough can be nearby without being abutted to the wash floor.

11. Defendants propose that "a guide rail separating the side trough from the wash floor" should mean "a guide rail positioned near the intersection of the side trough and the wash floor to divide the side trough from the wash floor." But Defendants' proposed definition is much too restrictive and not consistent with the "plain and ordinary meaning" of the phrase used in the claims according to my reading of the words used in the claims, the description and

drawings of the example embodiments in the '720 patent, and the prosecution history. Just because the guide rail separates the side trough from the wash floor does not mean they are directly connected or abutted. If they were nearby they would not be one unit and would not be able to be divided as proposed by the Defendants. Thus, the claim as stated in the '720 patent defines the intended invention of a side trough adjacent to the wash floor, not necessarily abutted as discussed previously.

The '774 Patent

12. Concerning the '774 patent, Defendants propose to construe the term "evacuation end" and the phrases "an elevator disposed in fluid communication with the evacuator" and "the elevator removing debris from the debris collector and elevating the removed debris from a collection height to a dump height for dumping," each according to the "plain and ordinary meaning" of these terms/phrases to an engineer of ordinary skill in the art.

13. Defendants propose that "evacuation end" should mean "an end of the catch trough at which the evacuator (including the fluid mover and the debris collector) and the elevator are located, as shown in Figure 6 of the '774 patent." But Defendants' proposed definition is much too restrictive and not consistent with the "plain and ordinary meaning" of the term "evacuation end" according to my reading of the words used in the claims, the description and drawings of the example embodiments in the '774 patent, and the prosecution history. The evacuation end is simply the end of the trough where evacuation (of water or solid debris) occurs. Column 7 lines 64-65 of the '774 patent even states that in other examples the evacuator 320 can be disposed anywhere along the catch trough 310. Claim 8 also specifies the same evacuation point for water and solid debris, which indicates that Claim 1 (the independent claim

further limited by dependent Claim 8) is not similarly limited but has a broader scope. Thus, the evacuation end does not have to be the same location as the evacuator and elevator.

14. Defendants propose that "an elevator disposed in fluid communication with the evacuator" should mean "an elevator connected to the evacuator such that debris can be moved from the debris collector directly into the elevator." But Defendants' proposed definition is much too restrictive and not consistent with the "plain and ordinary meaning" of the phrase used in the claims according to my reading of the words used in the claims, the description and drawings of the example embodiments in the '774 patent, and the prosecution history. Just because the elevator is disposed in fluid communication with the evacuator does not limit the elevator to be connected to the evacuator. The elevator could be located at the opposite end of the evacuator and still be in fluid communication.

15. Defendants propose that "the elevator removing debris from the debris collector and elevating the removed debris from a collection height to a dump height for dumping" should mean "the elevator includes a means to elevate debris to a dump height independent of the conveyor." But Defendants' proposed definition is much too restrictive and not consistent with the "plain and ordinary meaning" of the phrase used in the claims according to my reading of the words used in the claims, the description and drawings of the example embodiments in the '774 patent, and the prosecution history. There is no ambiguity to the ordinary meaning of the claim to justify limiting the claim such that the elevator includes a means to elevate debris to a dump height independent of the conveyor. The conveyor does not need to be independent of the elevator.

Defendants' (Second) Motion for Summary Judgment on Plaintiff's First Claim (Dkt. 179)

16. The technical analysis below demonstrates how Defendants' accused infringing "Hydropad" wash rack system meets the five disputed limitations (from Defendants' motion) recited in Claim 1-4 of the '298 patent, which are: (a) "***a frame*** having a first wall, a second wall, a third wall, a fourth wall, each wall having an inner and an outer surface," (b) "***a bottom surface*** extending between the inner surfaces of said first, second, third, and fourth walls of said frame to define a basin for collecting water used to clean the item as well as any debris removed from the item," (c) "***a grate*** operatively associated with said first, second, third, and fourth walls for supporting the item to be washed above said bottom surface while allowing water and any debris to flow into said basin," (d) "***a pump [that] is a vacuum*** [that] draws water and debris from said basin" (Claims 2-3), and (e) "said frame including ***a sloped tray***" (Claim 4).

17. The "frame" (including walls) is identified as Element 2 in Riveer's infringement contentions (Fig. 1), and further in the Hydropad manual image (Fig. 2) and photo (Fig. 3). I also verified the "frame" via personal observation of the Hydropad at the Katch Kan installation in Oklahoma in December, 2014. Because of the integral "side trough" of the Hydropad system, the frame includes both the "inside" and "outside" longer walls of the side trough, both of which function to frame the wash rack.

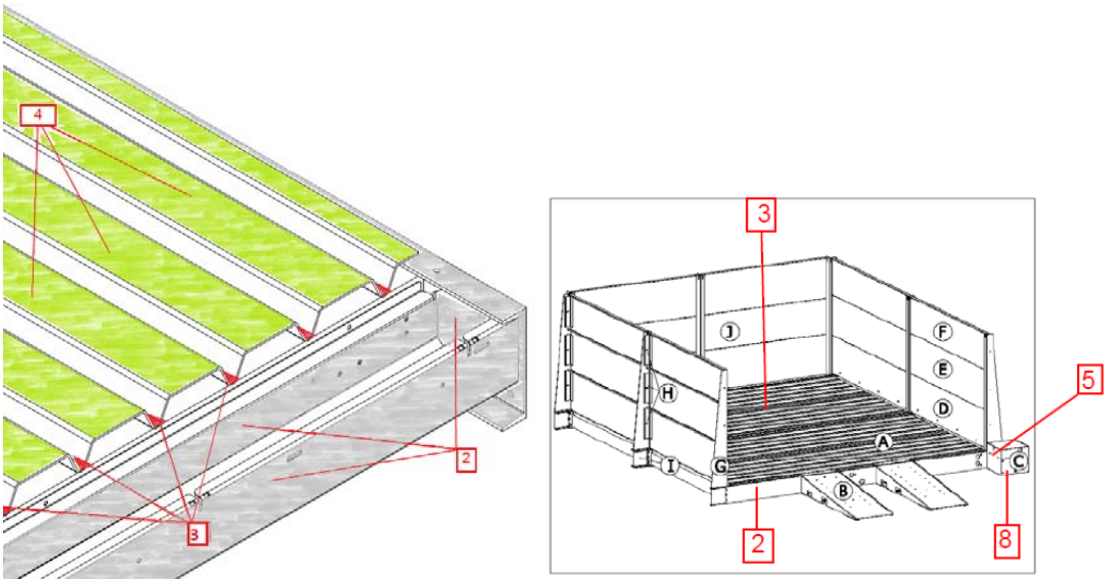

Figure 1: Hydropad frame (2), bottom surface (3), grate (4), drainage fitting (5), and pump (8) from Riveer's Final Infringement Contentions

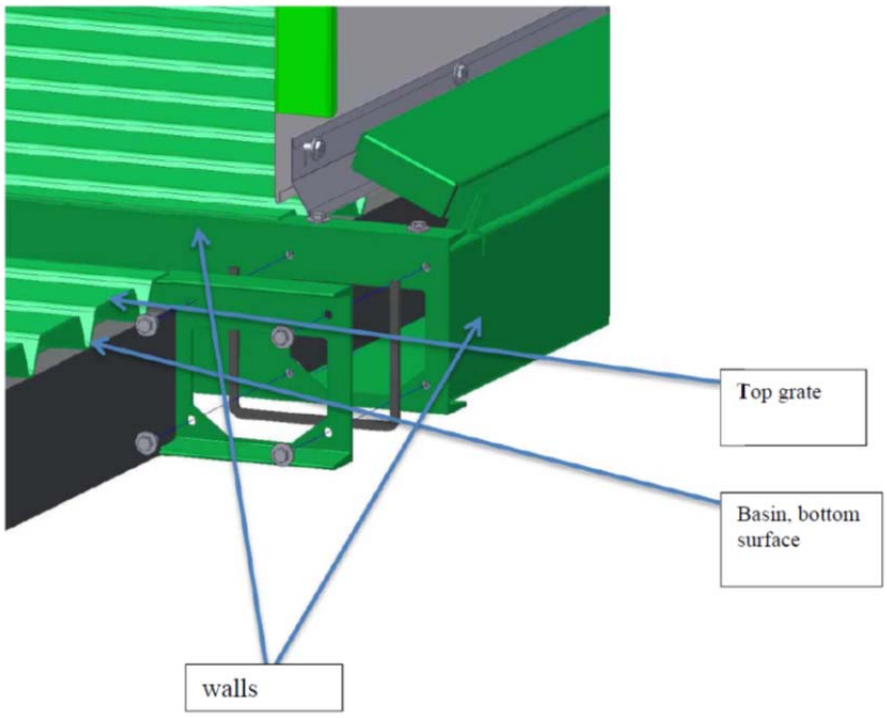

Figure 2: Hydropad frame as pictured in Hydropad manual (with labels added)

Figure 3: Hydropad frame shown from underneath at Katch Kan facility in Oklahoma

Claim 1 states a frame having a first though fourth wall, and the Hydropad has a frame with more than four walls supporting the structure and enclosing the corrugated surface. The fourth wall of the frame can be the outer wall of the side trough or the inner wall of the side trough. Both of these walls are part of the frame.

18. The "bottom surface" that "define[s] a basin for collecting water" is identified as Element 3 in Riveer's infringement contentions (Fig. 1), and further in the below photo (Fig. 4) where water is accumulated. I also verified the "bottom surface" via personal observation of the Hydropad. In the Hydropad system, the water channels or "groove" portions between and below the surface grating of the Hydropad perform the claimed function of "defining a basin for

collecting water" in the same way as the basin shown in the preferred embodiment of the '298 patent to achieve the same result of diverting wash water below the surface of the grating on which an item being washed rests so that it may flow freely toward the side trough and thereafter through the drainage fitting and the tube by the action of the pump.

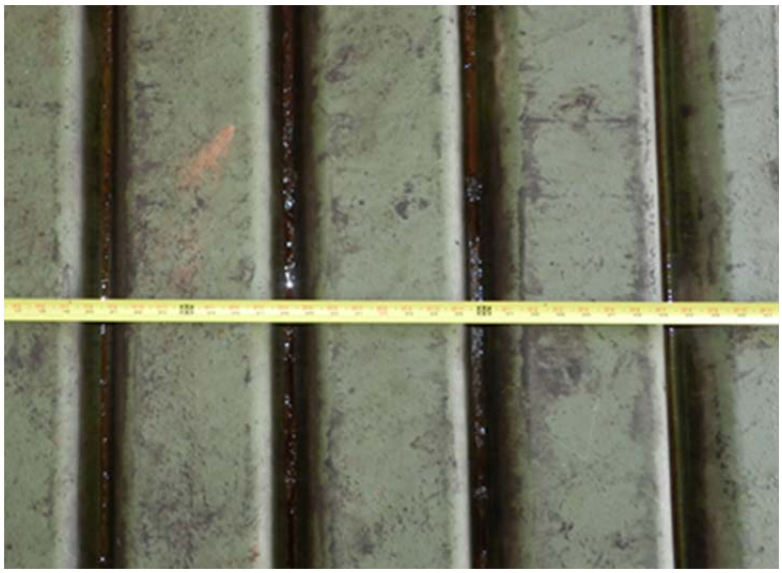

Figure 4: Hydropad bottom surface with water accumulated in defined basin

19. The "grate" is identified as Element 4 in Riveer's infringement contentions (Fig. 1), and further in the below photo (Fig. 5). I also verified the "grate" via personal observation of the Hydropad. In the Hydropad system, the upper portions of the grating perform the claimed function of "supporting the item to be washed above said bottom surface while allowing water and any debris to flow" in the same way as the grate shown in the preferred embodiment of the '298 patent, to achieve the same result.

Figure 5: Hydropad grate

20. The "pump [that] is a vacuum" (Claims 2-3) is identified in Riveer's infringement contentions, and further in the below photo (Fig. 6). I also verified the "pump" via personal observation of the Hydropad. An engineer of skill in the art would consider the pump used in the Hydropad system to be "a vacuum draw[ing] water and debris from said basin" because even a "sump pump" technically uses a vacuum in the same way as the pump disclosed in the preferred embodiment of the '298 patent, to achieve the same result, because a sump pump uses a centrifugal pump to move water. A sump pump uses a float to activate the switch that turns on the motor, and the motor spins a fan-like device called an impeller. The centrifugal force of the spinning impeller forces water toward the sides of the pipe which creates a low-pressure area at its center thus drawing a vacuum. Water from the pit rushes to fill the void, and the impeller's spinning action pushes water out through the pipe as seen on the left side of Figure 6.

See <http://home.howstuffworks.com/home-improvement/plumbing/sump-pump1.htm>

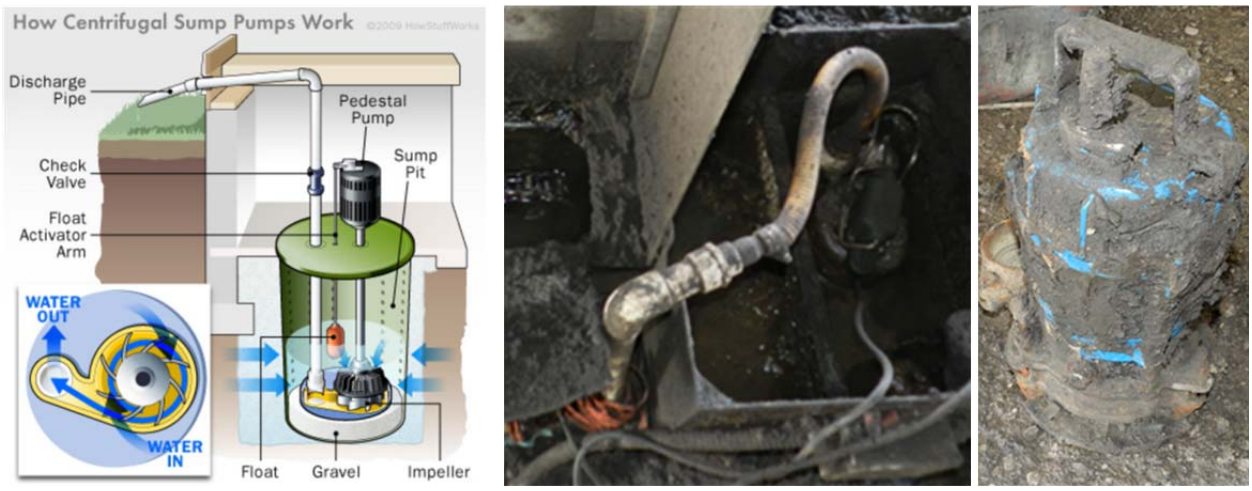

Figure 6: How sump pump works, (left), Hydropad sump pump in use (center) and old sump pump removed (right)

21. The "sloped tray" (Claim 4) is identified as Element 3 in Riveer's infringement contentions, and further in the below photos (Figs. 7-8). I also verified the "sloped tray" via personal observation of the Hydropad. In the Hydropad system, the water channels or "groove" portions between and below the surface grating of the Hydropad are sloped to allow water to flow in the direction toward the side trough in the same way as the basin shown in the preferred embodiment of the '298 patent to achieve the same result of diverting wash water below the surface of the grating on which an item being washed rests so that it may flow freely toward the side trough and thereafter through the drainage fitting and the tube by the action of the pump.

Figure 7: Hydropad sloped tray diverting water to trough

Figure 8: Hydropad sloped tray view from underneath

22. The remaining elements of Claim 1, although not disputed by Defendants, are satisfied as well. I also verified these elements via personal observation of the Hydropad. As shown in Riveer's infringement contentions (Fig. 1) as Elements 5-8 and also in the below

photos (Figs. 9-10), the accused infringing Hydropad system includes the claimed "***drainage fitting*** . . . to allow water collected in said basin to flow out," "***coupling means*** for coupling said modular wash rack to another modular wash rack," "***a tube*** having a first end connected to said drainage fitting," and "***a pump*** for causing the water to flow from the basin."

Figure 9: Hydropad coupling modular wash racks

Figure 10: Hydropad pump

Defendants' Motion for Summary Judgment on Plaintiff's Second Claim (Dkt. 181)

23. The technical analysis below demonstrates how Defendants' accused infringing "Hydropad" wash rack system meets the three disputed limitations (from Defendants' motion)

recited in Claim 1 of the '774 patent, which are: (a) "***an evacuator*** disposed in fluid communication with an evacuation end of the catch trough, the evacuator substantially removing wash fluid received from the catch trough, the evacuator comprising: a debris collector; and a fluid mover in fluid communication with the debris collector for drawing fluid through the debris collector, the debris collector configured to collect non-fluid debris," (b) "***an elevator*** disposed in fluid communication with the evacuator, the elevator removing debris from the debris collector and elevating the removed debris from a collection height to a dump height for dumping," and (c) "***a conveyor*** disposed along the catch trough and the elevator, the conveyor moving at least one of the wash fluid and the debris collected in the catch trough to the evacuator and elevating the debris from the evacuator to the dump height."

24. The "evacuator" is identified as Element 3 in Riveer's infringement contentions (Fig. 11 below), and further in the photo below (Fig. 12). I also verified the "evacuator" via personal observation of the Hydropad. The function of the evacuator is to "substantially remov[e] wash fluid received from the catch trough," it is "in fluid communication with an evacuation end of the catch trough," and it includes "a debris collector" and "a fluid mover in fluid communication with the debris collector for drawing fluid through the debris collector." In the Hydropad conveyor system, these same functions are performed—water (with solid debris) enters the side trough and is drawn through a screen to separate the water (which passes through the screen) from the solid debris (which does not). The water is then removed from the side trough by a pump, whereas the solids are removed from the side trough via the conveyor, which includes an elevator for raising the solids up to a dump height. Even if compared narrowly to the preferred embodiment of the '774 patent, the only difference in how the accused system is

configured is that the water and solids are removed from opposite ends of the side trough. But the specific configuration of the same "evacuation end" for water and solids is specifically recited in dependent Claim 8 (requiring the evacuator to be "connected to one end of the catch trough"), which means that independent Claim 1 is not limited to the same "evacuation end" for water and solids. Nor is there a substantial, functional difference between these configurations, because the same function and operation takes place to achieve the same result.

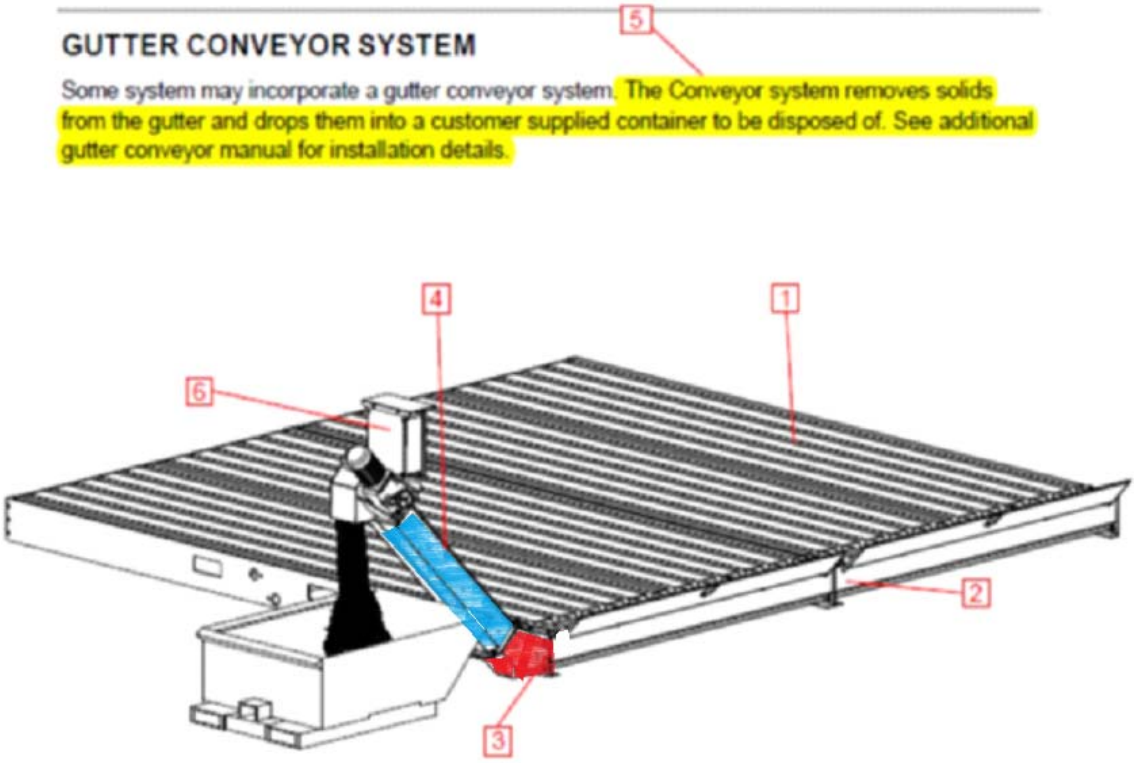

Figure 111: Hydropad conveyor system: evacuator (3) and elevator (4)

Figure 12: Hydropad evacuator

25. The "elevator" is identified as Element 4 in Riveer's infringement contentions (Fig. 11), and further in the below photo (Fig. 13). I also verified the "elevator" via personal observation of the Hydropad. The function of the elevator is to "remov[e] debris from the debris collector and elevat[e] the removed debris from a collection height to a dump height for dumping," and it is "in fluid communication with the evacuator."

Figure 13: Hydropad elevator

26. The "conveyor" is identified as Element 5 in Riveer's infringement contentions (Fig. 11), and further in the below photo (Fig. 14). I also verified the "conveyor" via personal observation of the Hydropad. The function of the conveyor is to "mov[e] at least one of the wash fluid and the debris collected in the catch trough to the evacuator" and "elevat[e] the debris from the evacuator to the dump height," and it is "disposed along the catch trough and the elevator." In the Hydropad conveyor system, even if the "elevator" functions are carried out by that portion of the conveyor traveling up and down the elevated arm, from a functional perspective such a difference would be insubstantial, and there is no requirement in the claims of the '774 patent that the elevator and conveyor cannot be connected or arranged in series. Also, Hydro's "drive unit" or metal shell housing is essential to its function as an elevator, because without it the debris would fall out onto the ground and not elevate at all because the debris is on

the bottom side of the conveyor and requires an inclined surface in which to sweep the debris up the incline.

Figure 14: Hydropad conveyor

27. The remaining element of Claim 1 is "a catch trough disposed in fluid communication with the wash floor" which is identified as Element 2 in Riveer's infringement contentions (Fig. 11), and further in the below photo (Fig. 15). Defendants do not dispute that this element is satisfied, and I also verified this element via personal observation of the Hydropad.

Figure 15: Hydropad a catch trough disposed in fluid communication with the wash floor

Defendants' Motion for Summary Judgment on Plaintiff's Third Claim (Dkt. 184)

28. The technical analysis below demonstrates how Defendants' accused infringing "Hydropad" wash rack system meets the two disputed limitations (from Defendants' motion) recited in the claims of the '720 patent, which are: (a) "***a side trough adjacent the wash floor***, the side trough positioned to receive waste from the wash floor, the side trough sized to accommodate a skid-steer loader," and (b) "***a guide rail separating the side trough from the wash floor*** and provided at least partly across a length of the cleaning system between the wash floor and the side trough to guide the skid-steer loader when the skid-steer loader is used to clean out the side trough, the guide rail defining at least one opening for allowing solids and liquids to pass from the wash floor into the side trough."

29. The "side trough adjacent the wash floor" is identified as Element 2 in Riveer's infringement contentions (Fig. 16 below). Not only is the Hydropad skid-steer trough "adjacent" to the wash floor, but it also performs the claimed functions of being "positioned to receive waste from the wash floor," and being "sized to accommodate a skid-steer loader." Even if compared narrowly to the preferred embodiment of the '720 patent, the only difference in how the accused system is configured is that the single "skid-steer side trough" has been split into two sections, connected by a short pipe. This alternate configuration is not functionally different in operation, because it performs the exact same functions recited in the claim, and the second section of the side trough remains adjacent to the wash floor.

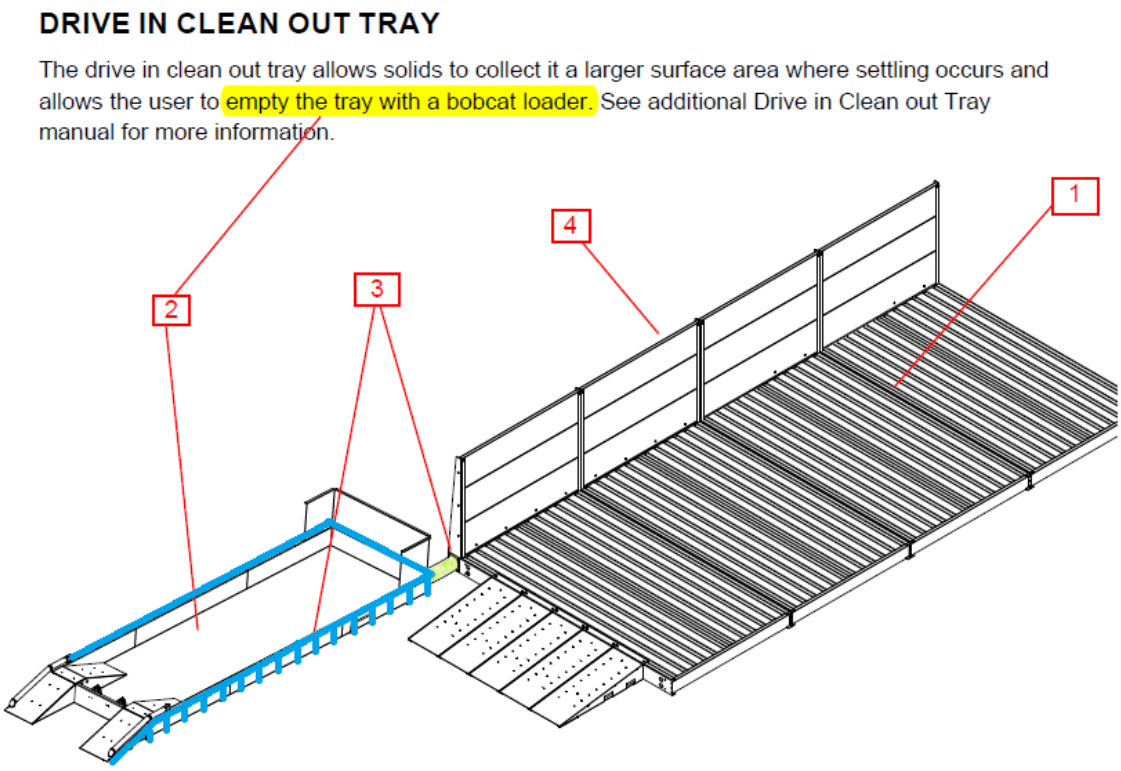

Figure 16: Hydropad side trough adjacent the wash floor

30. The "guide rail separating the side trough from the wash floor" is outlined in blue and identified as Element 3 in Riveer's infringement contentions (Fig. 16). The claimed function of this element is "to guide the skid-steer loader" and to "defin[e] at least one opening for allowing solids and liquids to pass from the wash floor into the side trough" which is highlighted in green. In the accused infringing Hydropad design, there are rails guiding the skid-steer loader on the entry ramp that protrude above the upper edge of the trough. There is also a horizontal member at the top of each of the three walls of the drive-in clean-out tray supported with vertical reinforcement members that have sufficient structural strength to withstand impact and guide the vehicle back into the tray if it veered into the walls. Without the reinforcements, the vertical

sheet metal alone would not guide a skid-steer without potential damage to the clean-out tray. Also, a pipe enters the drive-in clean-out tray (or "side trough" as referred to in '720) through an opening directly beneath the rear horizontal rail allowing solids and liquids to pass from the wash floor into the side trough. Even if compared narrowly to the preferred embodiment of the '720 patent, there is no functional difference in how the guide rails perform the specific functions claimed.

31. The remaining element of Claim 1, although not disputed by Defendants, is satisfied as well. I also verified this element via personal observation of the Hydropad. As shown in Riveer's infringement contentions and also below (Fig. 17) and in Figure 10 above, the accused infringing Hydropad system includes the claimed "filtering system attached to the trough, comprising a pump for pumping liquid from the trough to the filtering system."

Figure 17: Hydropad filtering system attached to the trough

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct and if called to testify, I could and would competently do so.

Executed on this 5th day of January, 2015, at Fort Smith, Arkansas.

David C. Paulus, PhD, PE

CERTIFICATE OF SERVICE

I hereby certify that I caused the foregoing document—**DECLARATION OF DAVID C. PAULUS IN OPPOSITION TO DEFENDANTS' MOTIONS FOR CLAIM CONSTRUCTION AND FOR SUMMARY JUDGMENT**—to be filed via the Court's CM/ECF system and thereby served on the parties as follows:

Brett L. Foster
Mark A. Miller
Christopher B. Hadley
Holland & Hart LLP
222 S. Main Street, Suite 2200
Salt Lake City, Utah 84101

Dated: January 5, 2015 /s/ Stephen M. Lobbin